

538161

A COLIN ENVERNO IN COLING MAND ENDO ENDO ENDO I NO DE ENDO ENVER AND A MAND AND ENDO ENDO ENDO DE EN COLINGO D

(43) International Publication Date 24 June 2004 (24.06.2004)

PCT

(10) International Publication Number WO 2004/053829 A1

(51) International Patent Classification7:

G09G 5/00

(21) International Application Number:

PCT/US2003/038862

- (22) International Filing Date: 8 December 2003 (08.12.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/431,662

8 December 2002 (08.12.2002) U

- (71) Applicant (for all designated States except US): IMMER-SION CORPORATION [US/US]; 801 Fox Lane, San Jose, CA 95131 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): GRANT, Danny [CA/CA]; 6678 Chateaubriand, Montreal, Québec H2S 2N7 (CA). EID, Jeffrey [US/US]; 105 Shadwell Drive, Danville, CA 94506 (US). ENDO, Shoichi [JP/US]; 20268 Northwest Square, Cupertino, CA 95014 (US).

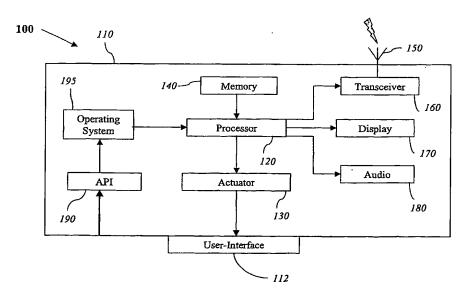
- (74) Agents: ALEMANNI, John, C. et al.; Kilpatrick Stockton LLP, 1001 West Fourth St., Winston-Salem, NC 27101 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

[Continued on next page]

(54) Title: METHODS AND SYSTEMS FOR PROVIDING A VIRTUAL TOUCH HAPTIC EFFECT TO HANDHELD COMMUNICATION DEVICES



(57) Abstract: Embodiments of the invention relate to methods and systems (100) for providing customized "haptic messaging" to use of handheld communication devices in a variety of applications. In one embodiment, a method of providing virtual touch to a handheld communication device includes: receiving an input signal associated with a virtual touch; outputing a request relating to a contact with a user-interface member coupled to a handheld communication device; and providing a control signal associated with the contact to an actuator coupled to the handheld communication device, the control signal being configured to cause the actuator to output a haptic effect associated with the virtual touch.

WO 2004/053829 A1



 before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.